

1981: Kai M. Siegbahn and the development of high-resolution electron spectroscopy

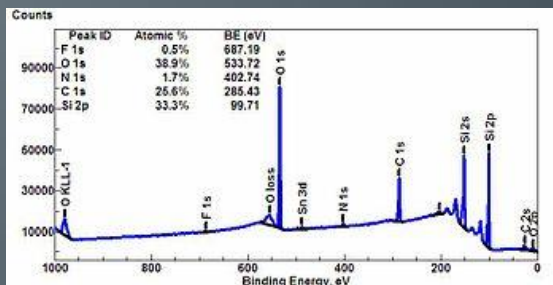
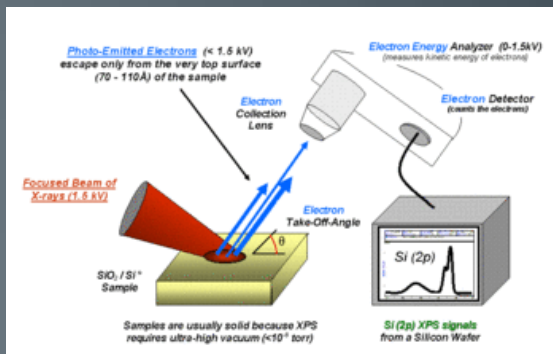


What is electron spectroscopy?

Electron Spectroscopy is a sensitive and quantitative spectroscopic technique that measures elemental composition, empirical formula, chemical state, and electronic state of elements within a material. It is also commonly referred to as x-ray photoelectron spectroscopy (XPS).

Importance:

High-resolution electron spectroscopy is important because it allows the in-depth study of materials. It is often used to analyze metal alloys, semiconductors, inorganic compounds, polymers, etc... By knowing characteristics of materials we are able to improve them, and find what works best together in alloys. This research can be particularly useful in the search for super-conducting alloys.



History:

After World War II, Siegbahn developed significant improvements in his equipment, and in 1954 recorded the first high-energy-resolution XPS. In 1969 the first commercial monochromatic XPS was produced by HP in the USA. Siegbahn received his Nobel Prize in 1981 for his work.